

The 50 MHz DX Bulletin

Volume 3

1992 January 26

Issue #2

First Ever Six-Meter QSOs From New Zealand To Europe And Africa

Perhaps the most historic events of the great late-1991 season were those involving New Zealand's openings to Europe and Africa. Details received here are less than complete, but are sufficient for an overview. I suggest that one or more New Zealanders take this report and use it as a skeleton upon which an accurate and complete history can be fleshed out.

The Path to Europe

From Bob ZL4AAA:

On 1991 November 1 at 1047-1215z (+; quit then) some of the strongest-ever signals were heard on 10 meters from YU and other eastern Mediterranean stations. At 1047z, the 49.75 video carriers were in, totally new offsets plus Poland (49.7489) and Hungary (49.7436). At 1054z I heard an unidentified YU station on 50.1067 CW, which was later deduced to have probably been YU3ZV.

On November 9 at 0720 I observed the first sign of what was to be a long-lived sporadic-E opening, with the 46.171 Toowoomba video carrier. This Es continued active at every check for the next two-plus days, with the footprint anchored on 46.171. At times it spread to include VK2 on the southwest, FK on the north, and ZL3/4 on the south end. Everything that happened within ZL during the next 62 hours was related in some way to the presence of this large, very stable Es cloud.

On November 10 at 0616 JA6YBR/b was heard briefly. At 0624-48, VK4's were worked via Es. At 0718-25 YU3ZV, while working VK4's, was heard and possibly worked; no QSL has yet been received. At 0744 ZL3TIC was in on short Es, along with the two ZL3 beacons. From 0837 to 0947, VK1/2/4 were in via Es.

From Kerry ZL2TPY: The first European signals here appeared at 0900, peaking at 310 degrees as expected. At 0914 I worked I4XCC for the first-ever ZL-to-Europe QSO.

From Bob ZL4AAA: At 0917 IV3VFP and I5MXX began to be heard here and IV3VFP was worked at 0917. QSLs have already been exchanged; my report to him was 4x2, and he gave me 3x3. At 0931 both the VK4's and the Italians dropped out here without warning.

Meanwhile ZL2's TPY, AGI, UBG, and KT in southern North Island were working I4XCC and YU3ZV, and ZL2KT had a partial QSO with OE6L. They lost the path at 0938, 7 minutes after it went here. All of the European signals were centered around JN65 where I, OE, and YU meet.

From Kerry ZL2TPY: The last reported European signals in ZL faded out at 1004.

From Martin ZL1ANJ and Cliff ZL1MQ: A total of 7 QSOs were made; in addition to those mentioned above, ZL2TPY worked IK4BHO. ZL2TPY had a JA opening after the Europeans, and at 1300 he worked JD1BFL.

From the Editor: Some other 6-meter reports around the times of the above opening may be in order. The 10th was a spectacular F2 day almost everywhere. In the period 0630-1100, the Mediterranean (YU, OE, I, 9H, SV, 4X4) was also reported into Japan, Guam, Manila, Darwin, Townsville, and VK2. Hong Kong was reported in ZL2 at 0830-44, and again at 1302. Hawaii had VS6, DU, BV7,

JA, JD1o, KH2, V73, Darwin, and VK1/2/3 (but no VK4) during this period, but the path to ZL didn't appear here until 1039.

The Path to Africa

From Bob ZL4AAA: On November 11, at 1759, the Caribbean pager on 43.70 was all alone. At 1809 I found three distinctive prop indicators below and inside of the 6m band. At 1815 ZL1AKW was in via backscatter, as well as a Spanish 2-way on 50.014, and YV4AB/b (which was in until 1858). At 1816 I went to .885 to shout for Joel, certain that he would be coming through on 6m. That turned out to be the very instant when Martin and Joel switched to 50.110 to make contact. When I called Joel on .885 an anonymous voice said, 'He's on 6 right now working ZL1ANJ.' Sure enough there he was.

From Martin ZL1ANJ: At 1817 I worked CN2JP and then CN8ST on SSB one minute later. These contacts were shortly after sunrise in ZL and were long haul F2 via Central America, at 90 degrees azimuth from here.

From Bob ZL4AAA: At 1822 I worked CN2JP.

From Dave ZL1AKW: At 1823 I worked CN2JP on CW.

From Bob ZL4AAA: At 1837 I heard but could not break CN8ST's keyer on 50.090. CN2JP was audible here until 1919, with lots of CQing and then at the end working someone (LU?). This path, over the Caribbean, was also probably open on November 4 at 1947-2015 and on November 6 at 2034-48. At 2212, the 46.171 Es indicator was heard for the last time in this 62+ hour stretch.

CN2JP's log shows the following entries around that time: ZL1ANJ 1816 599/599; ZL1ANJ 1817 59/59; ZL4AAA 1820 55/55; ZL1AKW 1821 59/59, and LU7DZ 1915 579/599.

From the Editor: On the 11th, around the CN-ZL opening, additional reports not mentioned above include W6 to ZL2/3 at 1835-1925, P43 to ZL at 1840, CN2 to LU at 1915, and KH6 had HC, HC8, plus W5/6/7 sidescatter peaking toward Peru, in the period 1746-1840. North America was otherwise blacked out at that time. Some weak 48.25 video was noted in Hawaii via sidescatter (toward Peru) starting at 1840.

Finally, there is the question of path distance for the CN-ZL opening. CN2JP's grid of IM64 is *precisely* antipodal to ZL4AAA's grid of RF65; a rough calculation indicates the path length is some 190 km shy of perfectly antipodal. It may be worth getting down to sub-squares, or coordinates, for the four contacts in this opening, as one of them is surely an all-time ZL DX record. However, we don't yet have exact coordinates for CN2JP or CN8ST. ZL4AAA is at 34°54'20"S, 173°08'20"E; ZL1ANJ is at 36°17'S, 174°47'E.

Our congratulations go out to Bob for the first ZL WAC, Kerry for the first ZL to Europe, Martin for the first ZL to Africa, and to Dave, Bill, Frank, Ray, Joel, Tarik, and the European operators. Major efforts have been put in over several years by the New Zealand 6m group to open up these paths, and they have proven once again that anything is possible on 6m for truly dedicated operators.

Comments on the VK4/50.110 Problem

From Bob ZL4AAA: Unfortunately the VK4's would not relinquish 50.110 so that ZL's could 'work through' to Europe for the first time ever on November 10. The VK4's were 30-40 dB stronger than the Italians, so antenna nulling didn't solve the problem. I did considerable liaising on 28.885 during these openings, so that the need to use 50.110 would be lessened, but many Europeans (including IV3VFP) cannot use 10 meters.

The real problem with these VK4's is that they pay no attention to the in-use status of .110. I do find that they will usually stand by briefly, if asked, BUT when they hear someone else calling a specific DX station or a region (such as Europe), they cannot resist jumping on and calling CQ themselves. Heaven forbid that they should miss a chance to be heard. I believe they think transmitting is more important than listening.

From the Editor: I've decided to print the above because more than two years have elapsed since the world began complaining about the VK4/50.110 problem, and the complaints have gone unheeded. I hasten to add that it is not all of the Queenslanders that are (ir)responsible; most of them are no different than operators anywhere else. But John VK4KK (ex-VK4ZJB) and his Brisbane cohorts, plus a few around Townsville, have garnered interference complaints at one time or another from nearly every place to which they have had propagation; here in Hawaii, they are a plague during TEP season. John is a successful 6m DXer, and runs a very big station, so he really gets out. As Bob notes, it's doesn't appear to be deliberate QRM, it's just that they don't listen before transmitting. And when they hear someone else call CQ, they don't wait a reasonable period in case that CQ is answered by someone they can't hear. Several 6m columnists inside and outside of Australia have commented on this problem; perhaps the time has come for the imposition of consequences. To start with, we can take the simple step of asking VK4's to QSY off of 50.110 if they want to work us.

This could only be Six Meters

by Al KL7NO

There has not been much activity on 6 from up here; Tom NL7OW is doing much better than I. Quite frequently the openings just don't make those last few miles north, and the last couple have been out of sync with the work schedule. Right now I go to work on Tuesdays and Thursdays at 2130z, and the band opens at 2200. On Wednesdays and Fridays I'm not home at all during the day. Oh well, I guess in these times I shouldn't complain about having a job to go to.

I did stop back at the house on January 7 to pick up some stuff after I had gone to work, and found 6m open to south Florida and the Yucatan. A couple of new grids for me, but no new countries. Probably the strangest QSOs I've ever made as far as operating conditions. I thought the band was completely dead, no signals anywhere, but I hit the keyer on 50.102 anyway. When I unkeyed after a very short CQ, the speaker about came out the front of the radio. They must have been lurking right on that frequency (or I stole somebody's pileup) but anyway I was standing there in full arctic regalia from parka to mukluks ready for an assault on the hill and here were 50 people yelling at me in CW. I was shucking clothes with one hand and keying with the other for a few minutes. After about 20 minutes all I could hear were people that I had already worked a couple of zillion times so I left with the band open and

managed to make it to the site without getting tagged for any annual leave. ('You ought to do something about those government trucks, boss, it quit down by my house and I couldn't get it started for 20 minutes.')

Tips for DXpeditioners

This coming season we look forward to more 6m-equipped DXpeditions around the world. With every prospect for good propagation, the band will be very busy. The hindsight acquired during previous DXpeditions in Cycle 22 shows that, aside from equipment considerations, the choice of operating techniques can make or break the DX results of your trip. A smooth and efficient operation is a pleasure not only for the "folks back home," but also for the intrepid traveler himself. Please reproduce this essay and pass it to your DXpeditioning friends.

The number one problem area is the selection of a transmitting frequency. Of course you would never do this at the home QTH, but on a DXpedition you are the prey, not the hunter. Rather than have hundreds of people testing propagation by calling you, it is much more efficient for you to do most of the transmitting. Of course, this assumes you have access to mains power.

It is standard practice among Japanese DXpeditions to pick a primary operating frequency far in advance of departure, and publicize it along with the dates, QSL info, and the like. This confers several advantages.

Everyone knows what frequency to find you on, at all times. Then if a station wants desperately to work you, then he or she can just park their receiver on the correct frequency and wait. In weak scatter situations, DXers will know who is on the frequency and you won't have to waste time on umpteen repeats of your call sign. The 10-meter liaison net *cannot* be relied on to keep up with frequent changes.

If you stay put, then other DXpeditions and DX operators in general can stay clear of your frequency. If they don't realize you're there, your prior announcement makes a strong case for anyone who needs to persuade them to move. By the same token, if you keep moving around, nobody can be expected to avoid accidentally QRMing you. In early 1990 there were two major 6m DXpeditions going on at the same time in the Pacific. Partly through insufficient liaison, both of them kept QSYing right atop one another! It is essential that the chosen frequency be a reasonable one. Never, ever use 50105 or 50110 primarily. These channels *must* be kept available for spontaneous DX contacts. 110 is, of course, the Primary International Calling Frequency, and 105 has become, for many, the Alternative International Calling Frequency. Nobody, but nobody, has the right to "blockade" those frequencies by heavy CQing or running pileups, and if they try, they will get the QRM they deserve. One recent DXpedition kept alternating between these two, and I tried vainly to dissuade others from running their own pileups there, a frustrating experience. We on the home front need encouragement to learn to tune around, instead of the counterproductive syndrome of "listening on one-ten" (ten-four, good buddy).

50100, and in fact the whole sector 50098 through 50110, are also not smart places for DXpeditions due to incessant activity during band openings. On the lower end, any frequency below 50090 will run into QRM from beacons; just because you can't hear the beacon doesn't mean those who are trying to work you cannot hear it. One other frequency to avoid is 50113 plus or minus a couple, due to NTSC colorburst harmonic QRM. The bottom line is that the best choices are 50090 to 50097 and 50115 to maybe 50125 or above.

One source of congestion and inefficiency in general, not just during DXpeditions, is the use of 5-kHz channelization; I call it "round-numberitis." The ranges recommended above contain only a total of six 5 kHz channels, which is not sufficient to accommodate heavy band activity. Common transceivers all have selectivity tighter than 5 kHz. Therefore I want to plead for the use of split frequencies, such as 50094, 50118, 50122, 50127.5, etc. When the band gets really busy, even 5 kHz spacing will not eliminate the situation where a very loud signal overwhelms adjacent very weak signals. But when all signals are weak or moderate, 2-3 kHz spacing is quite workable for skilled operators. And when some inexperienced DX station decides to join the fun, you can bet he'll set up shop on a round-number frequency, QRM or no. The sharp guys'll be on the splits.

The next operating factor is the choice of modes. It is understood that some operators simply prefer to make their contacts in one mode or the other. Some feel that, on a vacation, the use of Morse is just not enjoyable. While we all know that CW will get through QRM and QRN better than voice, this will make a critical difference in only a small percentage of contacts. So you, the operator, can make that choice as you see fit.

However, do not misconstrue this as saying you should not bring a keyer along! Even if you have no intention of making CW QSOs, a memory keyer is the perfect band-opening tool. Again looking at the usual exemplary Japanese practice, any DXpedition that isn't actually engaged in making contacts on the pre-announced frequency should be running a *full time* keyer on that frequency. If you're sitting at the rig, there should be a break of about 5 seconds between transmissions, and you should be using QSK, so that stations can "break the beacon." When you're asleep or away in the dining room, switch to a different message and eliminate the break, so that DXers will understand that they can't work you. In the latter message might be a good spot to announce your QSL route. If you want to entirely avoid transmitting Morse, consider one of the new "voice keyers" which can serve a similar function.

The limited duration of DXpeditions makes the use of 28885 liaison more important than ever, so that all propagation opportunities can be exploited. In probing for the best antenna azimuths for side-scatter, the ability to transmit on both bands at once, and to receive on both bands at once, can really streamline the process. It's been said before, and will be said again: use *stereo* headphones (plus boom mic?) and homebrew a little switchbox so that you can select either rig to either or both ears. Keep the key people on 28885 advised of your activity, and we in turn can pass that word to everyone else. When the pileup gets heavy, don't *totally* shut off 28885; just put it on a low-level speaker in the background so that a lot of shouting will catch your attention, while you dig into the 6m pileup with both ears of the headphones. Then, for example, if you're running 1-hop F2, and the second or third hop starts to hear you but can't break through the pileup, you can be alerted to listen for them.

Propagation is a function of location. Do not assume that the best times of day (or season) at your home QTH are also going to be the best at your DXpedition site. In the geomagnetic tropical zones, good DX can be worked anytime between sunrise and about 0330 local time. Long-path in that zone happens only in morning and evening, never in afternoon, so the afternoon may not be a bad time for a swim or socializing. Obviously nobody can operate for 20 hours a day, so instead, try to rotate your clock so

that you spend at least one day operating at each DX-possible time. At the higher latitudes, long-path will be only a morning event, and evenings will not bring TEP, so concentrate mostly on the daytime hours. But do keep in touch with the K-index, as aurora and auroral-E may provide some of the best DX at any time of day or night.

Everyone takes account of the seasonal factor in planning their DXpeditions, although that doesn't explain why anyone would go out in June/July during sunspot-maximum years. Think about it: the best F2 is always superior to the best Es, when averaged over a week or more. There is no path that can be worked on Es that cannot also be worked on F2 backscatter. Notice that almost every day in 1991 October there was good propagation between large portions of the U.S. and the Caribbean basin. That can never be said of the whole of June or July. So if you must go out in summer, save it for sunspot minimum, when Es is all we have. Also, the old saw about November being the best part of the fall season for all Northern-hemisphere locations needs to be tempered. Seasonality depends on (midpath) latitude. Yes, November is best for some latitudes, but October is better, even into the U.S., from low latitudes, and December-January is probably best from the highest latitudes like Greenland and VE8.

Another point about seasonality is that if you and your countrymen conduct DXpeditions at a time (Es season) when there is little chance for intercontinental propagation, don't complain if other nations do likewise. This is another area where we all need to start thinking globally.

The other propagation cycle that ought to be weighed into the planning process is the good old 27-day solar rotation period. This is the only way we have to predict, in advance, which days of the month will be the best. I am not referring to the ups and downs of the solar flux; I am referring to the ups and downs in the quantity of 50 MHz F2 propagation itself, which does tend to repeat in 27-day cycles. If you don't keep track of that cycle, consult with someone who does before you select the dates for your trip.

Try to pick out your dates at least 3-4 weeks in advance. Then immediately transmit that information to every 6-meter publication worldwide. Too many times we editors only hear of an upcoming operation a week in advance, and we cannot get it published and disseminated worldwide on that short of a lead-time. The result is that your log will be thinner than it might have been. Also, include your QSL route and grid locator with the advance information so DXers won't feel it necessary to badger you about those when they work you on 6m.

Equipment for 6m DXpeditions is very much a matter to be decided by the operator. The one point that should be raised is that TVI/RFI should be expected to rear its ugly head on DXpeditions to public accommodations or residential areas. So it would be wise to bring filters of all sorts, and extra feedline so that the transmitting antenna can be kept as far as possible from trouble spots, and possibly an antenna whose polarization can be changed. Or, prepare to go out hill-topping.

Everyone deeply appreciates the efforts of those who, at great personal cost in time, expenditure, and absence from the home shack that are entailed in a DXpedition. Such operations tend to stir up not only the home crowd, but also other rare DX operators, who hear the hoopla and start pileups of their own. 6 meters would just not be the same without you intrepid DXpeditioners. With a bit of planning and common sense, you can really be a hero and fulfill everyone's highest expectations. Thank you, and may the ions be with you!

More on 28885 Liaison

On October 29, there was a rare and fine opening between VK4BRG/FK8EB/3D2FJ and VE1/W1/W2/VE3. With maybe one or two hours of this propagation per sunspot cycle, it is imperative that good, quick liaison be conducted. Intermediate relaying on 28885 is an integral part of liaison on such a lengthy path. Happily, such relaying was provided during the above opening.

Unfortunately, but perhaps typically, there were other, lesser F2 openings at the same time. Some of these were "stirred up" by the participants of the long-haul event, while others were independent results of a hemisphere-wide MUF enhancement. There was Trans-Con, there was 8R1-to-W0/VE6/KH6, there was ZD8-to-W0/KH6, there was HC-to-W, the W1's touched down in KH6, et cetera.

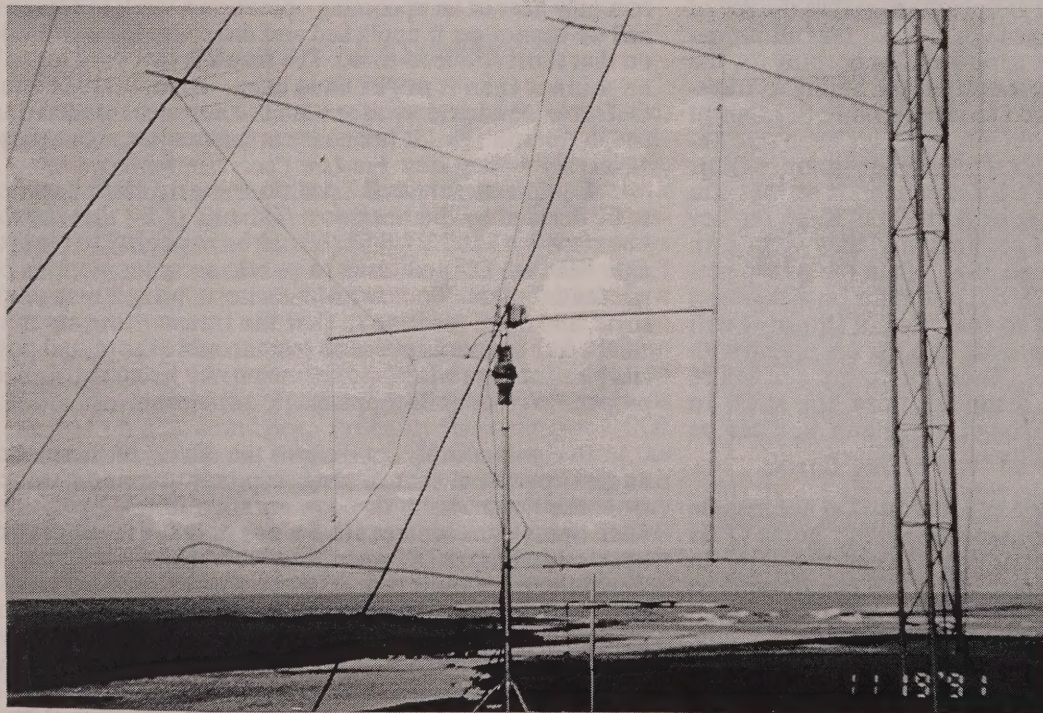
Also unfortunate was the fact that some of the relaying failed to prioritize the reports. The long-haul VK/etc. to VE1/etc. path should have had maximum priority. Instead, the Trans-Con reports were relayed, and discussed at length, as if they were equally important. Most of us know that Trans-Con is *routine* during decent F2 seasons as well as during Es seasons.

The point is that while relaying of liaison is very important, such relaying must be handled selectively. Let's keep relays terse and pointed, and when something special is going on, just ignore minor reports and irrelevant questions (or QSY with it). As with CQing in the DX Window and many other aspects of 6m operation, too much relaying can be as detrimental as too little.

DXing At CN2 and CU3

by Joel Paladino N6AMG

Like usual, my flight and arrival were uneventful. I slept well on both planes and was in good shape. CN8ST and CN8MK were waiting for me for the VIP escort through customs. I got all my equipment through: 9 pieces totaling 440 pounds (200 kg). CN8FD and CN8LI, whose family owns the villa, were also at the airport. The four of us, with all of my stuff, were loaded into a little Peugeot 405.



CN2JP 2 mtr EME antenna. Six element 6 mtr yagi is on the top of the 60' tower to right.

We first stopped by the villa to see if it was radio worthy. It turned out to be outstanding with a 60 foot tower on the roof and the villa was on a plateau 20 feet above the ocean. The power was underground as well.

The second thing was to swap out Tarik's KR-500 for the Ham IV that I had brought him. This turned out to be a nightmare. I ended up on his tower for hours cutting brackets and drilling holes. I got it to work and we made it to my villa after dark. I got a 6m dipole up and was QRV.

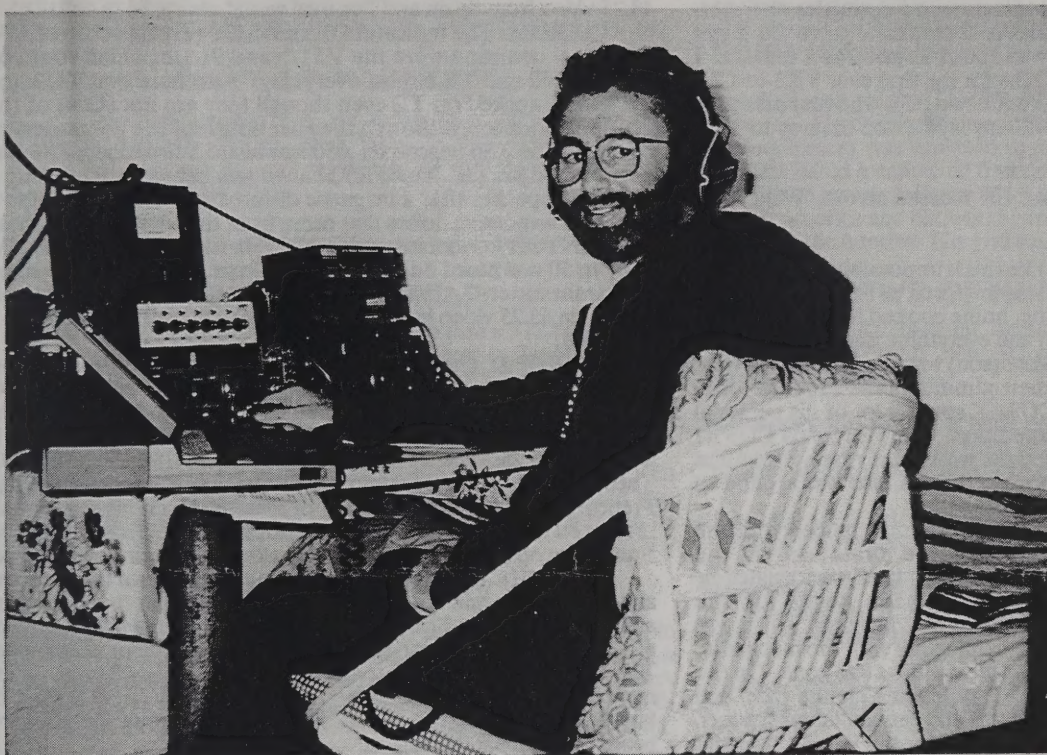
I went to sleep at 23:00 totally burned out and woke up at 3:00. Since I could not get back to sleep I put together the 6m yagi and rotator hardware inside the house. I went back to sleep at 5 after a bath and woke up again at 8 to put the rest of the 6m yagi together outside. I made a security belt out of my 1/4 inch Dacron guy rope and installed the rotator. This tower had very steep guys and it was like Rohn 25 but 2 inches smaller. The sections were 4 meters long. I put up the 30 foot long yagi by myself by tying the antenna to me with my security rope and walking up the tower. It took me 45 minutes of maneuvering the elements around the guy lines and resting many times to get the antenna up to the rotator level. I slid down the tower and hoped for that 1:1 match. It was perfect and the band was open to the east.

I had help after the second day from Nourrdeem. He watched the house and did tower work. He was also my translator and food shopper. We adopted a couple of cats, but my favorite pets were the two or three mosquitoes that appeared every night when I went to sleep. They never sucked any blood but kept me awake by buzzing around my ears. My solution was to put my ear plugs in, and the buzzing went away. Tarik brought a little electric heater to take the chill out of the place. When I was in CN the last time the water heater did not work. This time was no different. I removed the element and repaired it, then made a holder to keep it from falling out. The unit had a leak but it survived the 3 weeks. The other problem was that it had no thermostat. One night I forgot to turn the breaker off and we had a steam bath the next day. The refrigerator had no thermostat as well and had been worked on before. Tarik bought a thermostat and I repaired the refrigerator in the last week of my stay.

As always some things go wrong with the equipment. You forget something or something breaks. On November 14 at 2200 the 6m antenna would not turn past 225 degrees towards the south. It acted as if it were hitting a spring and coming back. I sent Nourrdeem up the tower and he found the 9913 had rotated itself out of the wraps of tape all the way down the tower. It had slipped down

causing the rotor loop to disappear. This was the first time I had used 9913 on a rotor loop and it as an interesting lesson. It was repaired in the dark and I was back in service. Then the receive side of the KW Dow-Key relay got intermittent to the point that I had to key twice to hear anything. Luckily the unit had a service cap into which I could slip a piece of paper. This worked and there were no further problems. Lastly, I forgot the microphone for the 575. I ended up using my digital voice message box and its adapter cables and mike to use the 575 on 10 m. The last problem was that I had an unusual glitch in the laptop which was used for logging. It would change time and date by itself, but only by a day or so and a couple of hours.

The location, as mentioned above, was awesome. There were few neighbors because everyone was in the city. I had zero



Joel Paladino, N6AMG, at the Operating Position of CN2JP

noise most of the time except to the south over some power lines that terminated at the ocean. My 3 element 10m antenna was 15 feet high at the back of the house overlooking the ocean. The 10m dipole was on the tower at 50 feet, where it picked up a lot of noise from my 50 V switching supply that powered the 6m amp. Even though the yagi was low it was much quieter. On 6m I used the TS-680S to drive the solid state KW to 800 watts. I used an IC-575H on 10m and as a back up for 6m. I had no RFI complaints and the police checked in with us often to see how we were doing. The 6m station KBed.

The DX totals on 6m were approximately 900 QSOs in 56 countries. There were two countries from which beacons were heard with no contacts made: FR and HC8. JW0A was worked with the beam south, but is thought to have been a bootlegger. I feel that the 6m expedition was about 50 percent successful due to the lack of W0, W7 and W6 contacts. The most significant contact was with ZL for the first ever ZL-to-Africa, and working VK2QF (going around the planet the other way) was interesting as well.

The 2m EME station was a TR-751A, 2 X 170 RF Concepts PA combined with 4 X 8 element M Squared prototypes on the roof atop my tripod. This system heard very well but TXed poorly; 20 contacts were made with 14 states and 6 countries.

Leaving CN was much more difficult then entering. First I had to pay for 130 kg of excess baggage. The credit card verification system would not okay my VISA, and the money exchange was not open. With time was getting short, I finally got some money and paid for the baggage. I then forgot my boarding pass, so went back and got that fairly quickly. Then the guard would not let my two carry-on bags through, but 20 Dirhams and 4 1-Dollar US bills got me over this first hurdle. Then the X-ray guard would not even allow me to put my bags on the X-ray machine. One of the higher ranked police officers came by and he knew my situation; soon my luggage was going through the X-ray. Then the body metal detector guard did a full body search while asking me if I had Moroccan money. Now that I was on the way to a 7:30 plane and it was 7:15, I noticed that my boarding pass had no seating assignment. Getting on the plane I found a line of people in the aisle and no more economy-class seats. The business-class seats were not full so I filled one of them. I was on my way to CU3.

The flight from Rabat to Lisbon was uneventful and the flight from Lisbon to Terceira, Azores was the same. I saw my antenna bags going on the Terceira flight so it looked like my baggage had

been transferred. Arrival at customs was interesting because I was the only one checked (because I was coming from Morocco). CU3AK was already helping me at this time and was wondering what the problem was. The officer wanted to charge me duty for my Moroccan carpets, then decided that he would keep them until I came back. After looking at his hit list he decided that the handmade carpet from Morocco was not restricted and that I could go on through.

We went directly to the house on the other side of the island to start the installation so we could get it done by dark. We met the home owners and one of the first words (in Portuguese) was a prohibition on climbing the roof. This house was in the middle of a neighborhood and the power lines (220 Volt) were going across the front yard of the property. We got the antenna up by dark but it got snagged on the roof. So we hoisted the base/rotator on one of my plastic boxes that I use

for carrying my equipment, filled up with rocks to make it stable. It cleared the roof but not one of the guys. We gave up till the next day.

The next day I got up to see how the antenna was doing because it had blown a gale all night. Well it was pointing into the ground and about 1 foot away from the power lines. The back guy had slipped and pulling it taut solved the problem. The guy was in a different spot now and it cleared the antenna. This morning (November 24) I worked some VK2's in the Sydney area.

The location was good from about 60 degrees through the north to 240 degrees. I actually could hear the 9L and ZD8 beacons through the hills to the south. I was about 600 feet above the sea and about 3 miles inland. Unfortunately the antenna needed to be 30 feet higher to clear all the local stuff. There was no power line noise and almost no extraneous signals from 45 to 60 MHz. I was afraid to blast with the amplifier like I did in CN for fear of RFI. The house had 220 volt 10 amp service, whose voltage varied between 185 and 220 with the normal about 207. I could run the KW and not blow the breaker, but only when the space heater was off.

It rained every day and blew as hard as 50 mph at times. The house was damp and cold. I was not actually that cold, but sitting around dialing the radio and hearing nothing most of the time left my hands pretty cold. CU3AK brought me a heater and I found another stashed away in the closet of the room I was sleeping in. The hot water was heated by propane and just barely got hot enough to take a shower.

The weather took a toll on the antennas as well. One of the two bolts that the rotor sat on came off allowing the antenna to spin around in circles. This took some of the 9913's insulation. It took me one hour to get the bolt back in because the 30 foot yagi was fighting me. Then the next morning the 2m array blew over. I put it back up in a rain storm and I was off of EME. Two hours later it blew over again and I wanted to give up. Again I set it straight up and straightened out all of the elements and pointed the yagis straight again. The F connector Tee broke and I made makeshift repairs of that. The SWR was checked and the sun was check for heading and noise. It all appeared to be working.

Like every trip I am on I fix things. I made a lot of antenna repairs and spent a whole day fixing CU3AK's VCR that I had brought parts for. I guessed at the parts we would need and was about 90% correct. I am glad that I don't fix VCRs for a living.

The DX results were 11 contacts with 5 countries on 6 meters, and 8 contacts with 3 countries on 2 meters. I guess you might say that the 6m propagation was about as good as 2 meters. I worked VK2QF again and VK2BA for the first ever VK2-to-CU. Appropriately enough, they were the two guys who met me at the Sydney airport and helped me with my layover on the way to Lord Howe in early 1990.

It took me two tries to make CN succeed on 6m. Will CU be the same? We shall see.

Naturally a DX-Pedition like this is impossible without help. On the Moroccan side, CN8ST was the focus of assistance, arranging the license, customs, housing, home cooked Moroccan meals (by Nadia CN8NA, Tarik's wife) and everything else. Also CN8BC Brahim Sidat and CN8LI Said Sidat (son) who owned the villa were most gracious for offering me their summer home and their assistance. In the Azores, Jaime CU3AK spent a lot of his personal time to help me out with the expedition. His wife Sylvia CU3Y? who just passed her exam helped me with plane reservations and my departure. I thank them both. CU3AA also was around to help and will help with the beacon project.

Mike K6MYC and the M Squared family helped with the antenna stuff as usual, including the donation of the CU3URA/SIX beacon antenna. The beacon itself was donated by N4LTA, and he also donated the beacon keyer for the CN6VHF/B. I used the WB2DND logging program which was donated by DND. Dad was there helping me with the mechanics before and after, and fed the menagerie while I was gone. On the 2m side, thanks go to Bob WB5LBT for lending me the radio and one amp, and for his 10m radio support and general moral support. HB9CRQ for fax support. Also W6JKV for the second amp and moral support from PJ7. W9JUV passed lots of traffic for me as well.

Propagation and Indicator Notes From Rabat, Morocco

The peak of the Solar Cycle and the peak of the fall season offer propagation continuously from about 0900 UT (also local) to about 0300 UT the next day almost every day. With CN8ST's less than one year of activity his country count is 90 as of this writing. Morocco is definitely in the 100 per year club like PY and G.

NORTH AMERICA: The indicators to NA were mostly elusive. The only useful beacon was VO1BCN. There were two paths, the direct and sidescatter. The direct path seemed to be found by CQing only, and it always started and ended with VE1. When the W1 path got real good there were always a couple of W8s. The scatter path at 250 degrees could be found by HC direct propagation, European BS, 48.25 BS and FBS. I could work W5s to Texas, W8s, any W4s and some W1s and W2s.

CARIBBEAN: The Caribbean was worked on F2, F2 BS and TE BS. The only indicators noted were BS, which could peak directly toward the Caribbean or just south of direct. PJ7/W6JKV was worked most mornings as early as his 0630 local. Also Caribbean openings showed me what kind of propagation the day would bring to the US and beyond. A good Caribbean opening meant good F2 to YN and HC type areas as well as good BS to the southern US.

SOUTH AMERICA: SA had three distinct propagation paths, to northern, southeastern, and southwestern SA. These paths were both on F2 and TEP. The most obvious is the almost nightly TE to PY-LU. Then one to three hours later there could be propagation to more westerly portions. The TE had many indicators, such as the many PY beacons, particularly the pair on about .060. The .060 beacons were never heard on F2, but PT7BCN on .078 was heard on F2 and not on TE. Also the 55.25 NTSC video was very useful. The many hundreds of FM 2-way on 48 to 50 were always evident, and were good for telling which part of SA the propagation was coming from. The 47.9 music channel was the best indicator for CE and was heard on F2 and TE. The FY beacon was good for TE and F2 but was not always there during good TE or F2 sessions. The ZD8 beacon, 9L1 beacon and V51 beacons always preceded the intense SA TE. It is important to note that I have heard the ZD8/B as late as 2330. As well as all of the above indicators the BS indicators were very good for F2. The FBS and 48.25 would always indicate propagation to the SA direction. Another important note is that when the TE is in the

48.25 video from Spain and Portugal would always be in on BS.

AFRICA: The indicators from Africa were all south of CN. The most common were the V51/b and 9L1/b, which could be heard on F2 and TE almost every day. Also note that TU2 and TR8 were worked on TE even though they are not south of the geodetic equator, although they are south of the geomagnetic equator. The ZS6 beacon on .050 was heard a few times; ZS6 was never heard on TE. The FR5 beacon was heard on F2 during a good ZS6 opening after a magnetic disturbance. There were also a variety of wandering noises that came from the south; among these were SINTOR harmonics of ship 17 MHz transmitters. Some FM at 47 to 50 was heard but was not significant. There are also some data transmitters. African 48.25 video was heard on Es. There is also some 55.25 video in Africa as well that still has not been identified.

EUROPE: The Es into EU got especially intense once and was observed two other times; areas included G, F, PA, ON, SM, YU, I, and OH. Also GJ4ICD could be worked on tropo scatter every day. Indicators toward western EU were the GB beacon, F STLs and 48.25. The STLs were on 50.024, .1, .150, .5 and 51.000. These had 50 kHz wide audio for TV programs, according to the French. Bob Cooper's discussion of these STLs in this publication indicated that their locations are not well established, but the French 6m operators know them well along with their grid locators.

NORTHEAST EUROPE: The indicators from the Moscow and Poland area and beyond were so numerous that they could not all be documented. There were thousands of wireless phones from 46 to 48. The signal strengths were in the hundreds of micro volts. There were also many FM transmitters in the 47 to 48 area. They seemed to avoid the 49 area because of their TV. Also the 49.75 laid the S meter on the end at times. No Amateur signals were heard on 6m from this region.

MIDDLE EAST: The middle east indicators were similar to the Moscow ones. The concentration of wireless phones at 47 proved to be most informative. We identified Saudi accents many times. Also we heard many Arabic and Hebrew conversations, and other languages were heard but not identified. Some possibilities are Turk and Indian. No 6m contacts were made into this region.

JAPAN: I worked JA and JR6 in the morning at 30 degrees (direct), and 90 degrees (sidescatter). It is almost impossible to foretell these two paths. The reason for this is that the 49.75 (49.75 denotes all carriers plus or minus 10 kHz) is S9+60dB from the USSR at the same time and the same direction. The following items were always noted. The 49.75 would be medium strong to very strong direct path. The 48.25 would be coming from 90 degrees; this was usually sidescatter. I had identified some 48.25 from the middle east but could not confirm it. Also my FBS (full break in sounding) would peak at 90 degrees.

The other JA path that CN8ST has found is the classic Long-Path over South America. I have experienced it once. I did not look for the indicators out of band though. This particular event occurred during a massive TE/TE BS opening. I had strong LU, PY, CX, and ZP, plus BS to CU, PJ. Then JR6's were worked with 5X5 signals. JR6 was worked both in the morning and evening that day. Tarik has said that normally there is TEP to PY when the JAs are in, and that usually the PY beacons start to die down as the JAs come in. The timing is from 2000 to 2400.

AUSTRALIA: This path like the JA paths is most difficult to predict. VK4, VK6 and VK8 could be worked from about 0900 to 1200. Remember these are all northern stations. The one exception is VK2QF who was heard twice and worked once. There was always 48.25 and 49.75 video in. Sometimes the video modulation would be S9 in the band. The most important indicator was 28.885. The Europeans stations always had VK before me. I believe that VK2 and VK4 east coast stations could be worked via the Long Path over North America.

NEW ZEALAND: The ZL path which we all thought was possible became a reality with three northern ZLs worked. This path is antipodal over South America. Unfortunately the indicators were not well documented. I had some weak LUs and 47.9 MHz from CE3. This path is about 2 hours after sunset where there was always a peak of TEP to the south.

COUNTRIES LIST FOR CN2JP 1990 + 1991 DXPEDITIONS

Oceania: DU, VK, ZL

Asia: JA
North America: W, VE, XE, TI, YN, CO, 6Y, HH, KP2, PJ7, FG, V2
South America: PJ9, FY, PY0, PY, ZP, CX, LU, CE, HC; heard HC8
Europe: CU, CT, ZB, 9H, I, F, GJ, G, GI, GU, ON, PA, LX, SM, OH, OE, HB, YU, SV, ZC4, JW?
Africa: CN, 6W, 3X, 9L, TU, ZD8, TR, 9J, 7Q, Z2, A2, V5, ZS9, ZS6; heard FR5

EQUIPMENT HELP

LU7DZ and LU/N4PZ are trying to find a 5722 diode tube and matching 7-pin socket, for a noise generator. If you can help, please mark the package "Gift—Used—No Value" and ship it First Class to: Eduardo Van Ooteghem, Drago 2524, Villa Adlena, 1607, Buenos Aires, Argentina. Tnx KA8SNJ.

Brian VR6BX on Pitcairn Island, in a conversation with Ken VE3FIT, stated that he already has 6m receive capability, and that he would be happy to activate Pitcairn on 6m if a transceiver can be loaned.

NEWS OF OCEANIA

Midway: Art KH4AE is leaving Midway permanently sometime in February. That will leave Midway silent, although an Extra-class licensee is expected to arrive soon, and it may be possible to interest him in 6m. Meanwhile, look for Art in his lunch period 2200-2400 daily; he often haunts the low end of 10m SSB. Tnx KH6HH.

Nauru: Your editor just had a 20m chat with C21BR to ascertain his current 6m status. He has the yagi up at 18 feet above ground, although the armstrong method is required for rotation. The equipment is working, as evidenced by reception of some VK and JA beacons. Brian described a routine he follows during three periods every day: 1900-1930, 2330-0030, and 0500-0530 UT. The routine consists of listening up and down the band, especially on 50.110, followed by operation in beacon mode on 50.095. Brian says he was active on 6m back in 1957 in the U.K., using NBFM and regen receivers (?!). He notes that C21RK also has 6m equipment but doesn't use it.

Also on the Nauru front, Jack VK2GJH expects to return there on a trip starting February 22, staying 4-6 days before moving along to T30. He may be joined by Steve VK3OT. Tnx VK3OT.

Palau: A reminder of the DXpedition upcoming here from March 1-15. On 6m the primary operator will be Charlie W0RRY, and the station will have 500 watts to a 5el yagi. I don't think Palau (formerly known as the Western Carolines) has ever been worked on 6m beyond east Asia and Oceania, but that's probably due to inactivity rather than lack of propagation. A breakable keyer on an announced frequency would be a real help, as there are no other indicators within 1000 miles or so.

Western Kiribati: Whilst V73AT was busy working 33 U.S. states on January 12, T30BY showed up and worked into northern W7. He is a permanent resident, but had not been reported active since several years earlier. QSLs go to Retita Neemia, Box 34, Bairiki, Tarawa, Republic of Kiribati.

Also, Jack VK2GJH will return as T30JH for about 4 weeks starting at the end of February. Tnx VK3OT.

NEWS OF ASIA

Asiatic Russia: The EK0JA DXpedition to Vladivostok in December worked some 60 or 70 JA's via meteor scatter, and nothing else (after midnight is not too lively at that latitude). They did, however, set up Mike UW0MF with a TS-690 and 6-element yagi for 6m. Mike is very active on HF. Tnx JG2BRL.

Meanwhile, on January 8 at 0030, Steve W7CI stumbled onto another type of UA0 activity. With Soviet 49.75 video and JA's rolling into Arizona, some narrow-band FM signals were copied on 50.000, speaking Russian. Steve broke in with his hundred thousand watts-plus ERP (must've really closed Ivan's magic-eye tube),

and was politely informed by the net control station that this was a military net on Sakhalin Island. The net was also heard by Dave N5JHV. Unfortunately, no QSLs are available!

South Korea: Gary HL9TG is back in Korea after an 18-month absence. He checked in on 28885 in early January to say that his 6m equipment was expected to arrive shortly, and furthermore he has interested a couple of friends in 6m, and they will share Gary's rig. When he was active in 1989, he gave out HL on 6m to many in North America and elsewhere; the country became relatively scarce on 6m in the interim. His grid square is PM36 as before.

NEWS OF NORTH AMERICA

Aves Island: An all-band, including 6m, operation has been announced for February 28 to March 2. The callsign is to be YX0AI. No further details yet.

Grenada: Jim J37AE is back on the island after a long absence, and ready to operate 6m from FK92. Also, J73PD has a 6m rig but doesn't seem to use it. Tnx 9Y4VU.

Guatemala: TG9NX and TG9SO are now active on 6m, thanks perhaps to good missionary work by YS1AG. Tnx N7JJS.

Honduras: N7JJS and others are preparing to ship a donated 6m rig to either HR1CAR or KA9KAI/HR2. Also HR1BY has a 6m rig but reportedly is without an antenna. Tnx YS1AG.

Montserrat: Bobbie VP2MO is active again; he worked into the U.S. on January 11. At last report he was using an IC551 into 6 elements.

Panama: Steve W7CI will be spending February 15 to March 15 in HP, and plans to bring a 6m rig along. HP has been very scarce on 6m since the departure of HP3XUH two years ago.

NEWS OF SOUTH AMERICA

Brazil: A grid-pedition is planned by PT7NK et al to GI96 (rare field, too!) sometime in the first ten days of February. Tnx PY5CC. Also PY5CC himself is planning to activate GG53 and GG55 in March.

South Sandwich Islands: The major DXpedition here is moving forward as planned; the equipment has already arrived in the Falkland Islands. The callsign will be VP8SSI, and it will run from March 21 to April 4 (perfectly timed for highest probability of 6m F2). The location will be Ferguson Bay, Thule Island, at 59d27m S/27d23m W, which is grid square HD60 (the announced grid of HD30 is open ocean, per the World Grid Atlas). On 6m, they will try to run a keyer on 50.117. Operators will be W7KNT (handling 6m), K0IR, WA3VYN, WA4JQS, W6MKB, JE3MAS, K5VT, and OH2BH. The 6m rig will have 100 watts into a 6el yagi. Donations will be gratefully accepted; send to AA6BB. QSLs for 6m CW QSOs will be handled by KA6V, and for 6m SSB QSOs by AA6BB. Tnx W7HAH.

NEWS OF EUROPE

Finland: On January 22, Kari OH2BC successfully completed a schedule on 6m E-M-E by Shep W7HAH. The interesting part is that Shep runs just a single M² 11-element yagi at 65 feet above ground, not movable in elevation. This is fed with 180 feet of 1/2-inch Heliac and 9913, and the preamp is in the shack, along with the kW amplifier. The moon was 6 degrees above zero horizon at W7HAH. This demonstrates that OH2BC is getting out well with his 4-yagi array; see the October 1 issue for details of Kari's system, and his address. This should be good news for the KL7's and others who still need Europe for WAC. Tnx W7HAH.

Switzerland: Dan HB9CRQ sends this update: "Unfortunately we still are allowed to operate only in non TV hours, which means between approx. 00 and 05 UT, but we never know in advance. Even when the TV program is only a test pattern, we are not allowed to use the band! This of course makes it almost impossible to work DX! At the end of 1992 the Swiss authorities will decide whether 6m goes to us or still belongs to the TV company."

NEWS OF AFRICA

Ascension: Jim N6TJ may be active again at ZD8Z in February; tnx N6CW.

Ivory Coast: A letter sent by TU4DH to W5OZI contains the following list of active 6m ops: Daniel TU2EW (IJ75), Gerard TU2OJ (IJ76), TU2MA (infrequently), and TU4DH (IJ77). The latter's QSL info is Jean Claude Richard, BP 584, Bouake, RCI, Ivory Coast.

BEACON NEWS

Australia: A correction regarding VK4BRG/b: the power level is 3 to 4 watts. Tnx Ron.

Azores: The new beacon here is getting out nicely, having been widely heard in North America recently. It sends "CU3URA/SIX HM68."

Canada: Mike VE1MQ writes that he runs a beacon on 50.088 (frequency subject to change); the grid is FN65. Due to TV restrictions, it currently operates about 50% of the time. Inquiries go to Michael Smith, 408 Canterbury Drive, Fredericton, N.B., Canada, E3B 4L9.

El Salvador: A new beacon is planned here, with the call YS1YS. More info soon.

Philippines: The DX1HB machine is now operating from its permanent site atop a tall building (80 feet above ground) at a good high location in Manila. It runs about 20 watts, and has already been reported in Europe, as well as via long path in Sao Paulo.

EQUIPMENT NOTES

The IC-551 Trick: The ICOM IC-551 and IC-551D are still popular, even with DXers near the top of the Standings, and they are a good value on the used market. But, as with many other 6m rigs, the tuning range covers only 50-54 MHz. Below is a procedure to allow tricking the rig to tune below 50 MHz. There is also a hardware mod that some DXers have made with satisfaction, and I'll publish the details if someone will provide them. Also, if anyone knows similar tricks with software or hardware for other 50-54 MHz transceivers, I'd be happy to share them here. Now, to the trick, which I learned from KG6DX and have been using happily ever since.

1. Get in USB, and tune the VFO to 50.0000.
2. With your right hand, depress the TS button to the lower left of the tuning knob; keep it depressed, so that the TS LED stays lit.
3. With your left hand, toggle the mode switch repeatedly between USB and FM-s. Each toggling motion drops the display by 10 kHz, starting with "59.9980." The first digit is incorrect; "59.xxxx" will in reality be 49.xxxx MHz.
4. Once you reach 49.0000 MHz, you may then quit toggling the mode switch and take over freely with the VFO knob, *provided that you don't tune it above 49.0000 again*. Between 49.0000 and 50.0000 MHz, the VFO knob can only be used in the upward direction, or else it will snap up to 53.xxxx MHz, and you'll have to start all over again with the mode switch.
5. The obvious way to keep the mode switch from wearing out is to use your VFO's and memories to save sub-50 MHz frequencies. The two most useful sub-50 indicators are probably the 48.25 E-2 video carriers and the 49.75 R-1/C-1 video carriers. So you can dedicate VFO B to 48.25, and it can also be tuned freely around the sub-49 spectrum as needed. For 49.75, you can place 49.7490 into memory number 1, and move around with the RIT.

The 50 MHz DX Bulletin was founded by Harry Schools KA3B, is edited by Shel Remington NI6E/KH6, and is published by Victor Frank K6FV. Issued at irregular intervals as frequently as possible, it is dedicated to the understanding and utilization of long-distance propagation in the 6-meter Amateur band. Annual airmail subscriptions cost \$20.00 in the US; US\$22.00 in Canada; US\$25.00 elsewhere. Make subscription remittances payable to Sheldon Remington and send to P. O. Box 1222, Kaaau HI 96749, U.S.A. Send reports to the editor via mail or telephone 808-982-5800 between 2000-0800 UT. This Bulletin may be freely quoted, provided that credit is given. All dates and times are Universal Time, and given in ISO/ANSI sequence: year/month/date/time.

This leaves memories 2 and 3 available for automatic sweeping of the DX Window and environs. The only problem comes on the rare occasions when you must work split-frequency, and are forced to dump VFO B's contents.

6. The gain of the receiver drops fairly steeply below 50 MHz, but is still sufficient for early detection of high-powered DX indicators.

Publication notes: we have received a couple of requests for replacements for Issues 19+, on the assumption that they were lost in the mail. There were no issues after 18, until Volume 3, Issue 1. As alluded to in 'Changes' on page 1 of that issue, this Bulletin is part of a suite of activities benefiting the hobby. Your editor puts in 100+ hours/week on these activities, to the detriment of personal health and prosperity. If rigid Bulletin punctuality is essential to you, you should probably cancel your subscription, and your remaining money will be refunded.

POSTSCRIPT FROM K6FV

I received the floppy disk containing the previous part of this bulletin on Friday, January 24. I've reformatted most of it to a smaller type size to keep it within 8 pages and 1 oz, and to allow inclusion of the CN2JP DXexpedition photos.

Postponed was an ad for the Central State VHF Society meeting July 16-19, 1992 in Kerrville, TX. They are billing this as the *1st Worldwide VHF Ionospheric Propagation Symposium*.

Your publisher feels strongly that we (Shel and I) owe our subscribers a timely product for their money, and would not like to see further two-month lapses. However, the bulletin has turned out to be larger than was originally envisioned by KA3B and ZL4AAA, and I suspect that a 18 issue/year schedule is not maintainable, for reasons of burnout of your editor and publisher, and finances. It costs 95¢ just to mail 1 oz to many of our overseas subscribers. 12 or 13 issues/year seems more likely; we'll see what Shel can do. By the way, he's moving next week (the end of January). His post office box will remain the same, but moving can ruin your whole month.

1991 back issues are available, each for \$1.50 U.S., \$1.60 Mexico, \$2C to Canada (send personal check in Canadian dollars), or \$2 U.S. to the rest of the world from the publisher, Victor Frank, P.O. Box 762, Menlo Park, CA 94026. Please send address corrections and six digit grid locators to the same address.

PUBLISHER'S MAIL BAG. Louie, KG6UH/DU1, writes re: openings to Europe. 91/12/17 YU3, 92/1/1 OH & ON, 91/1/3 DL. Expect to be here til June, but could be longer!

Richard, WA5QCP, writes in regards to my comments in Vol II-18 re: The DX Window, that activity tends to expand across the band as the intensity of an opening increases. During the 89/11/26 JA opening, he worked stations as high as 50.295 MHz. There are times when the MUF will not support 50.2, but will support 50.15.

I'm also surprised at the number of stations who join pile-ups who have worked the DX station before. They are frequently the "big guns", wanting to say "hello". By dominating the pile-up, they frequently deny access to lesser-equipped stations who may need the DX station for a new country. I usually wait until the DX station calls several unanswered CQs before replying, if I have worked him before. *K6FV—If he hears nothing, the DX station may QRT.*

One casualty of the present system has been backscatter contacts. I haven't worked K5FF or W5FF since sunspot cycle 21, though I hear them often in the "DX Window" and I still need grid locator DM64. I've worked some backscatter above 50.125, but probably less than 10% of what I used to work last sunspot cycle.